

REMARKS

This amendment is in response to the Office Action dated January 6, 2005, which is the first action following the request for continued examination.

I. The Obviousness based on Gonno and Bims, et al

Claims 19 to 31 were rejected as obvious under 35 U.S.C. 103 (a) over Gonno (EP 0008760:23), in view of Bims, et al.

The above claim 19 has been further amended by including the features and limitations from claim 24 to patentably distinguish it from the combined subject matter of Gonno and Bims, et al.

Gonno discloses a communication network for broadcasting or multicasting, such as an IP multicast network, in which message packets a, b, c, d, e are transmitted one after the other from a central station or transmitter to a plurality of receivers (terminals) via an IP protocol (see fig. 5; column 10, line 15, to column 12, line 32; and description as well as the claims 14 and 25). After a certain time period the receivers determine which of the message packets or messages has been received incorrectly or erroneously. Receivers that have not successfully received packets correctly send a NAK or re-transmission request to the central station or transmitter that identifies each message packet that should

be re-transmitted. After a certain time period the transmitter performs a logical sum of all repeat transmission requests to determine which message packets should be re-transmitted, i.e. multicast or broadcast again to the participants. Then only message packets that were incorrectly received or not received by at least one receiver (terminal) are re-transmitted in the method of Gonno (see the detailed description of the method of transmission shown in fig.5 in Gonno, claim 14, claim 25).

Gonno, in column 12, lines 24 to 32, does state that a receiver may send multiple requests for re-transmission if a packet continues to be erroneously or incorrectly received or presumably not received. Furthermore Gonno states that the number and duration of message packet re-transmissions may be limited (column 12, lines 29 to 32). See also dependent claim 7.

Bims, et al, does disclose a method of wireless transmission of signals with forward and reverse channel automatic repeat requests (ARQ) between a network terminal (NT) and a mobile unit (MU) (column 2, lines 34 to 40), under control of the network terminal. The method of Bims, et al, accounts for lack of space in a receiving unit memory that can prevent the storage of an entire message because of excessive message length. See claims 1, 8, 11 and 19.

The method of Bims, et al, is designed to reduce the number of extraneous transmissions (column 9, lines 39 to 44), but also so that an entire ARQ message will be received with no errors. The number of extraneous transmissions is reduced primarily by avoiding transmissions of message that are

too long for the available memory of the receiving unit or the network terminal in the case of the reverse link (see column 5, line 50 to 64). Thus the number of NAK and/or ACK signal transmissions over the reverse link is not necessarily reduced by the methods of Bims, et al, so that clogging of a large network may occur. According to Bims, et al, column 6, lines 34 to 35, the NT receives an acknowledgement that a message fragment is received properly or not as an ACK or a NAK. Also the establishment of the message channel for forward messaging is acknowledged by the transmission of an ACK to the NT from the MU (column 6, lines 17 to 18). Other possible reverse channel responses include the important memory full response, which is at the heart of the invention in the reference.

In addition, applicants' new independent claim 19 is limited to assigning a respective sequence number to each transmitted message to identify the message. Claim 19, step a) claims a method in which the sequence number is broadcast or transmitted with the message from the central station ZE to the terminal. Claim 19, step b) claims a step in which a repeat request for re-transmission of a message that is incorrectly received is transmitted from the concerned terminal to the central station; the repeat request includes the sequence number. Step c) of claim 19 claims re-transmission or re-broadcast of the incorrectly received message with the sequence number.

The applicants' method includes embodiments in which only one of the sequence numbers is acknowledged to inform the central station whether or not

message repetition is necessary (dependent claim 26) or in which the central station sends a plurality of sequence numbers of all previous messages since the last acknowledgement (dependent claim 27).

Gonno, et al, does not disclose or suggest repeat requests comprising sequence numbers for verifying lost or erroneous messages. This method of verifying lost or erroneous messages leads to a precise and reliable, but also simple and rapid, handling of messages.

Bims, et al, also do not disclose or suggest identifying a particular message fragment with a sequential number designating its order in the message and including that sequential number in the repeat request or NAK response.

Bims, et al, do disclose a session number for designating a particular session including a plurality of messages or message fragments at column 6, lines 27 to 30, but this reference does not disclose a respective sequential number associated with corresponding message fragments. Also this reference does not disclose or suggest including a sequence number in the ACK or NAK, which is transmitted from the terminal to the central station or NT, which acknowledges the message fragment.

The use of a session number in the method of Bims, et al, permits multiple ARQ sessions to be simultaneously active between the mobile unit and network terminal, without conflict. The session number of Bims, et al, is chosen from a set of numbers, which are unused in both forward and reverse directions at the time of assignment (column 5, line 16 to 29). Clearly the session number is not a

sequential number because a previously used session number (low number) from a terminated ARQ session can be reused for a subsequent session after issuing other session numbers (higher numbers) for ARQ sessions that are started later.

It is well established by many U. S. Court decisions that to reject a claimed invention under 35 U.S.C. 103 there must be some hint or suggestion in the prior art of the modifications of the disclosure in a prior art reference or references used to reject the claimed invention, which are necessary to arrive at the claimed invention. For example, the Court of Appeals for the Federal Circuit has said:

"Rather, to establish obviousness based on a combination of elements disclosed in the prior art, there must be some motivation, suggestion or teaching of the desirability of making the specific combination that was made by the applicant...Even when obviousness is based on as single reference there must be a showing of a suggestion of motivation to modify the teachings of that reference.." *In re Kotzab*, 55 U.S.P.Q. 2nd 1313 (Fed. Cir. 2001). See also M.P.E.P. 2141

Neither Gonno nor Bims, et al, disclose or suggest using message or message fragment sequence numbers in the repeat request to identify the message that must be re-transmitted from the central station (ZE).

Furthermore there is teaching of doing the opposite from Bims, et al, in the primary reference, Gonno. Gonno should not be combined with Bims, et al, under 35 U.S.C. 103 (a).

Bims, et al, teaches that each message fragment is acknowledged with an

ACK or NAK in column 6, lines 34 to 40. Also Bims, et al, teaches that his method allows reception of an entire message comprised of the message fragments with **no errors** (column 9, lines 39 to 41). Thus ACK and NAK signals must be transmitted to insure the necessary re-transmissions of incorrectly received data.

Gonno, on the other hand, teaches against positive acknowledgement of a correctly received message when the message is first transmitted or broadcast. According to Gonno only re-transmission requests are transmitted from the receivers to the transmitter. No ACK transmissions occur from the receivers to the transmitter in order to reduce the heavy congestion that could occur with a large number of participants (see column 8, lines 46 to 54). This is the opposite from Bims, et al, who require ACK signals or positive acknowledgement of message fragments.

It is well established that the subject matter of references can only be combined if there is no teaching of doing the opposite or against the combination in one of the references. See for example **MPEP 2145 X.D.**

For the foregoing reasons and because of the changes in the amended claims withdrawal of the rejection of amended claims 19 to 31 under 35 U.S.C. 103 (a) as obvious over Gonno (EP 000876023), in view of Bims, et al, is respectfully requested.


II. The Changes in the Abstract

The abstract has been changed so that it includes features and limitations from claim 24, which were added to the main claim 19 by the above-described changes.

Should the Examiner require or consider it advisable that the specification, claims and/or drawing be further amended or corrected in formal respects to put this case in condition for final allowance, then it is requested that such amendments or corrections be carried out by Examiner's Amendment and the case passed to issue. Alternatively, should the Examiner feel that a personal discussion might be helpful in advancing the case to allowance, he or she is invited to telephone the undersigned at 1-631-549 4700.

In view of the foregoing, favorable allowance is respectfully solicited.

Respectfully submitted,


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